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4-H 344 Entomology A Part of the 4-H Entomology Project : Unit Three Beneficial and Harmful Insects

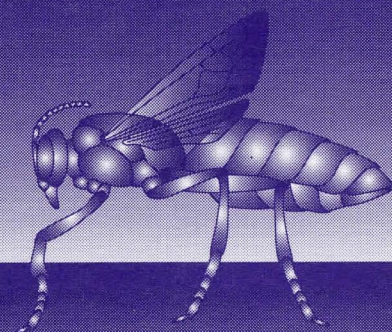
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ENTOMOLOGY

A Part of the 4-H Entomology Project



Unit Three Beneficial And Harmful Insects

What You Do In This Unit

Unfortunately, people usually regard all insects as harmful pests. It's true that some insects are harmful, but most are not. Actually, many insects are helpful. In this unit you will learn much about the different ways insects harm plants and animals, including humans. You will also learn about the many beneficial insects that pollinate plants, provide useful products, and help combat pest insects and weeds. You will research the habits of some beneficial and harmful insects and you will become even more proficient at identifying insects and collecting them for study.

Requirements Of This Unit

1. Learn the life history and biology of three different harmful insects:
 - one that chews plants
 - one that sucks sap from plants
 - one that feeds on blood
2. Learn the life history and biology of four different beneficial insects:
 - one that is a predator
 - one that is a parasite
 - one that is a scavenger
 - one that produces a useful product or service
3. Learn the life history of two insects that transmit disease:
 - one that transmits a disease of plants
 - one that transmits a disease of animals

4. Collect, mount and label five harmful insects. Identify them by order name and the common name of the species.

5. Collect, mount and label five beneficial insects. Identify them by order name and the common name of the species.

6. Collect, mount and identify 25 insects (including the 10 in items 4 and 5) that are all different from those collected for Units 1 and 2. Your Unit 3 collection, therefore, should have 75 insects in at least 10 orders.

7. Make any additional collection boxes or equipment needed.

8. Submit a completed 4-H Entomology Record Sheet (4-H F 8).

How To Get Started

The 4-H Entomology Manual (4-H 26) will help you with the identification of insect orders, but it is not very useful for identifying specific beneficial or harmful insects. It also does not supply information of the life history, biology, and impact of these insects. Therefore, Unit 3 requires some "library research." Chapter IX of the manual lists many references, the most useful for this unit being Numbers 1, 7, 19, 38, 49, 57 and 74. Another useful book, but not listed in the manual, is *Insect Pests of Farm, Garden, and Orchard* by R.H. Davidson and W.F. Lyon. Your school and town library will have these or other references. And, of course, encyclopedias are full of information about insects.

Ask your Extension Agent or 4-H Leader about the "NebGuides" published by the University of Nebraska Cooperative Extension. These pamphlets describe the biology and management of many insect pests of Nebraska. If there is a NebGuide for the insect you are interested in, you will find it very useful.

Once you know how to recognize a few harmful insects and a few beneficial ones, collecting them won't be hard. Be sure to include a host label for these specimens (see Figure 30 in the manual). The insect's common name should be written below the order name on the lowest label on the pin.

Questions You Should Ask Yourself

1. Do I understand the different ways insects might harm plants, animals and myself? How many examples of harmful insects can I give?
2. Do I understand the different ways insects are beneficial? How many beneficial insects can I name?
3. What is a herbivorous insect? a carnivorous insect? a scavenger insect? Can I give examples of each?
4. What is a predatory insect? a parasitic insect? Can I give examples of each?
5. What are defoliators? leafminers? gall makers? wood borers? bots? grubs? scales?



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